

WISCONSIN PEST BULLETIN

Timely crop pest news, forecasts, and growing season conditions for Wisconsin



STATE OF WISCONSIN DEPARTMENT OF AGRICULTURE, TRADE AND CONSUMER PROTECTION PLANT INDUSTRY BUREAU
2811 Agriculture Dr. Madison, WI 53718 • <http://pestbulletin.wisconsin.gov>

WEATHER & PESTS

Spring weather finally arrived in Wisconsin during the last week of April. Much of the state experienced the first consecutive warm, sunny days of the year as highs soared to the 70s and lower 80s. Several rounds of showers and isolated thunderstorms occurred over central and southern Wisconsin, while the far northern region remained mostly dry. The seasonal temperatures and precipitation were timely for corn, oats and potato planting, though the rain disrupted the very limited amount of fieldwork that had begun following a historically cold, snowy April. At the start of the week, spring tillage was 15% complete statewide, up 13 points from the previous week, but far short of the five-year average of 26%. Oat producers had seeded just 16% of the state's crop compared to 31% last year and a 32% five-year average. DATCP insect surveys have not yet started since most of the state's alfalfa acreage remains dormant or too short to sweep. The official start of sampling for alfalfa weevil adults and other early-season pests is planned for next week.

LOOKING AHEAD

BLACK CUTWORM: Migrants arrived in significant numbers this week. The DATCP network of 45 pheromone traps captured 217 moths from April 26-May 2, with localized intense flights of nine or more moths recorded at

eight sites. The cumulative count of 227 moths as of May 2 compares to a total of 1,036 at the same time last year. Moths first appeared in the state by April 12 this season and egg deposition is beginning on grasses and winter annual weeds such as common chickweed, peppergrass, and yellow rocket in untilled fields.

BROWN MARMORATED STINK BUG: More than 50 brown marmorated stink bug (BMSB) reports have already been confirmed this year, according to the UW-Madison Insect Diagnostic Lab. Most of the specimens originated from the Madison, Milwaukee and Green Bay areas, where the state's largest populations are thought to be concentrated. BMSB is established in some apple orchards and has been found near sweet corn in the last two years, although crop damage has not yet been documented in Wisconsin. This invasive pest has been confirmed in 22 of the state's 72 counties since 2010.

EASTERN TENT CATERPILLAR: Egg hatch began on April 24 in Grant County. The characteristic tents are not yet visible, but should become apparent on apple, ornamental crabapple, wild cherry, and other host trees in by mid-May. Manual removal of the small tents, rather than pruning infested branches, is advised.

NEWA WEATHER STATIONS: Local weather and pest forecast information from approximately 20 Network for Environment and Weather Applications (NEWA) stations

across Wisconsin is now available online to all growers. The weather monitoring stations in apple orchards and on farms transmit site-specific data to NEWA servers that calculate and provide weather data summaries, degree days, and IPM and crop production forecast model results. Currently, 30 IPM and crop production tools and 13 degree day tools are available in NEWA. The site is free and it is not necessary to have a weather station to use this resource. A list of Wisconsin station locations can be found at: <http://newa.cornell.edu/index.php?page=station-pages-wi>

GYPSY MOTH: Larval emergence from overwintered eggs is predicted for May 5-9 in southern Wisconsin. This event occurred by April 21 last year, April 25 in 2016, and is about two weeks later than normal this season. Aerial spraying directed against the first and second instar stages in the gypsy moth life cycle could be delayed until the week of May 21-25, which would be one of the latest start dates in the 39-year history of the Wisconsin Gypsy Moth Program.



Gypsy moth egg masses

Timothy Allen DATCP

FORAGES & GRAINS

ALFALFA WEEVIL: Overwintered adults are resuming activity and spring egg deposition has begun in far southern Wisconsin. Surveys in alfalfa have not yet started as of May 3. The record-setting cold weather of April is expected to delay the first appearance of larvae until May 11 or later.

PEA APHID: The degree day accumulation above base 40°F is adequate for hatching of overwintered eggs. Pea aphids were first noted on April 17 last season and are

DEGREE DAYS JANUARY 1 - MAY 2

LOCATION	50°F	2017	NORM	40°F
Dubuque, IA	159	295	241	400
Lone Rock	144	265	—	357
Beloit	145	289	247	356
Sullivan	115	245	210	292
Madison	131	248	229	327
Juneau	117	230	—	291
Racine	107	228	—	277
Waukesha	106	230	—	277
Milwaukee	108	220	177	288
Hartford	113	224	—	288
Appleton	98	162	—	243
Green Bay	94	163	165	237
Big Flats	117	209	—	288
Hancock	94	181	215	234
Port Edwards	94	173	212	237
La Crosse	139	234	253	340
Eau Claire	113	181	213	256
Cumberland	72	101	172	168
Bayfield	55	69	—	147
Wausau	76	127	173	194
Medford	73	107	147	173
Crivitz	101	140	—	233
Crandon	73	94	134	179

*Method: Modified B50; Modified B40 as of January 1, 2018.
NORMALS based on 30-year average daily temps, 1981-2010.*

usually active by now. Aphid densities typically increase throughout May and peak about two weeks before the first alfalfa harvest.

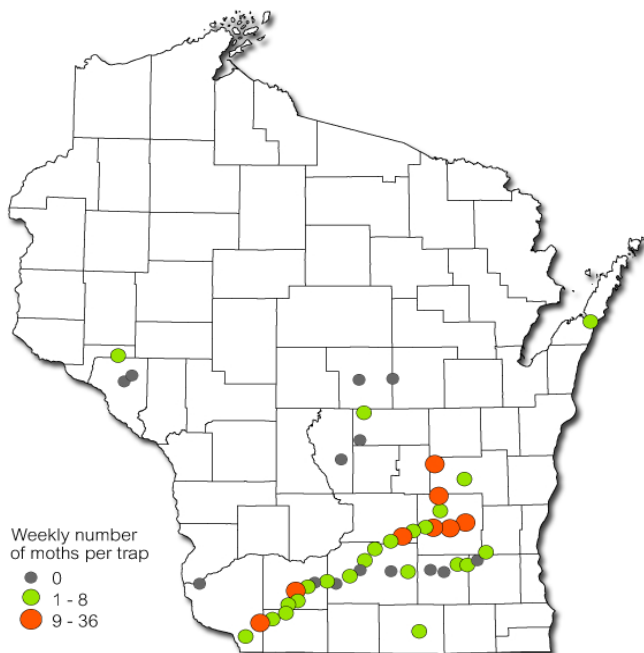
CORN


TRUE ARMYWORM: The first indication of armyworm arrival was on April 25 near Janesville in Rock County, where six adults were collected in a black light trap. Similar to the black cutworm, this long-range migrant overwinters in the south-central U.S. and arrives in Wisconsin each spring on southerly storm fronts. Larval outbreaks are sporadic and may develop during cool, wet seasons, especially following a drought year.

BLACK CUTWORM: Moths first arrived in the state three weeks ago, appearing in traps in Dodge and Lafayette County on April 12. Counts since then have been low, although the season's first significant captures of nine or more moths were documented at eight monitoring sites

from April 26-May 2. The 2018 BCW network consisting of 45 traps across Adams, Buffalo, Columbia, Dane, Dodge, Door, Fond du Lac, Grant, Iowa, Jefferson, Lafayette, Monroe, Pepin, Portage, Rock, Washington, Waukesha, Waupaca, and Waushara counties, has thus far registered a cumulative total of 227 moths, or five per trap. A forecast of peak corn cutting dates will be issued next week.

Black Cutworm Counts April 26-May 2, 2018



Wisconsin Department of Agriculture, Trade and Consumer Protection 

SOYBEANS

SOYBEAN APHID: Overwintered eggs on buckthorn have likely begun hatching with this week's warm weather and precipitation. After two to three generations on buckthorn, winged females are produced that disperse to soybean fields. Aphids customarily begin colonizing emerging soybeans by the first or second week of June. Although aphid populations declined to a 17-year low last season, there is the potential for the pest to reach or exceed economic levels every year.

BROWN MARMORATED STINK BUG: Crop advisors and soybeans growers are asked to remain alert for BMSB in 2018 and send any suspects to the UW Insect Diagnostic Lab for identification. Reproducing populations are now well-established in portions of southern and eastern Wisconsin and crop damage is expected as this invasive

pest becomes more abundant and widely distributed in the state. Soybeans and corn are both at high risk of stink bug injury. Feeding by BMSB on soybean pods and seeds results in 'stay green' symptoms, or soybeans that do not produce harvestable yields.



Brown marmorated stink bug

Matt Rourke www.newsworks.org

FRUITS

SPOTTED TENTIFORM LEAFMINER: The first moth flight began by April 17 in southwestern Wisconsin. Counts this week were variable, with most orchards capturing relatively few STLMS and others reporting moderate weekly catches of 200-525 moths. Peak emergence or trap catch of spring adults is approaching and should occur at advanced sites during the third or fourth week of May.

MIDWEST STINK BUG ASSISTANT APP: Apple growers participating in the 2018 BMSB monitoring program are encouraged to download the BMSB identification app developed by the University of Minnesota Extension IPM Program, in partnership with the Minnesota Invasive Terrestrial Plants and Pests Center and Purdue University. The free app, Midwest Stink Bug Assistant, facilitates early detection and reporting of the invasive BMSB, and also helps users identify common native stink bug species. Other features include a stink bug "look alike" page to distinguish stink bugs from non-stink bugs; high-quality, high resolution images; and the option to review and report if a suspected BMSB specimen is found through the "Report Invasive" feature. Once a bug has been reported, a stink bug expert will be contacted to verify the identification. The app is available in both Apple and Android platforms.

EASTERN TENT CATERPILLAR: Egg hatch is underway statewide with the accumulation of 50 degree days (modified base 50°F). The characteristic tents should become increasingly visible on wild cherry, apple, flowering crabapple, and other host trees in the next two weeks. Control is most effective while the larvae and tents are still small.



Eastern tent caterpillar egg case

extension.udel.edu/ornamentals

REDBANDED LEAFROLLER: Moths are appearing in orchard pheromone traps across the southern and central counties. Counts since mid-April have ranged from 0-176 per trap, and the first peak flight is unlikely to occur for two more weeks.

VEGETABLES

COMMON ASPARAGUS BEETLE: The phenology model for this pest forecasts the first appearance of adult beetles and the start of egg deposition on asparagus spears from 150-240 degree days (simple base 50°F). The lower range of this threshold will be surpassed next week in the warmest southern and western Wisconsin locations.

FLEA BEETLE: Measures to prevent flea beetle invasion of spring vegetable crops such as spinach and leafy greens are advised at this time. Overwintered adults are now emerging from diapause and can be expected to invade seed beds that are not protected with floating row covers. Vegetable seedlings and transplants are most vulnerable to flea beetle damage in the first two weeks following emergence and should be routinely inspected every other day during this period of heightened susceptibility to beetle injury.

IMPORTED CABBAGEWORM: Adults have been active since late April. The early spring appearance of these yellowish-white butterflies around field plantings and home gardens indicates eggs are being laid on early-planted or transplanted broccoli, cabbage, kale, radish, and other cole crops. Two basic measures growers may take to reduce early ICW damage are ensuring transplants are free of larval contamination and installing floating row covers or another physical barrier to prevent oviposition on plants. Btk products for ICW control must be applied while larvae are small.



Imported cabbageworm butterfly

wildwhb.com

NURSERY & FOREST

XANTHOMONAS BLIGHT OF BEGONIA: Rieger begonias in a Washington County greenhouse were diagnosed last month with this potentially serious bacterial leaf blight. The source of the infected begonias was the global supplier Dümme Orange, who announced on December 15, 2017 the discovery of *Xanthomonas* in begonia stock plants at their El Salvadorian production facilities. Although the diseased plant material was recalled, some infected plants had already been delivered to growers.

Xanthomonas (*X. axonopodis* pv. *begonia*) leaf blight is specific to begonias. Symptoms include wedge-shaped lesions with yellow halos and a speckled appearance especially visible on the undersides of foliage, with wilting and blight which can progress to serious leaf loss.

Preventing infected plants from entering production facilities is the preferred control. Regular scouting and roguing are important since infected begonia may

initially be symptomless. Increased air flow, appropriate plant spacing, and isolating individual begonia crops also helps to reduce or prevent the spread of the pathogen. Hanging begonia baskets above susceptible begonias can facilitate infection of plants below.



Begonia infected with Xanthomonas blight

Anette Phibbs DATCP

Chemical control is not effective against this bacterial disease. Disposal is the only option if an accidental introduction occurs. Nursery operators are encouraged to submit symptomatic begonia plants for testing to the UW Plant Disease Diagnostics Clinic.

PLANT VIRUSES: Several tenacious viruses are again appearing among early deliveries of ornamental plant stocks throughout the state. In the *Dicentra* or bleeding heart genus, the cultivars “King of Hearts” and “Valentine” tested positive for tobacco rattle virus (TRV), as have the *Astilbe* varieties “Mighty Plonie” and cultivars “Radius.” *Hosta* hybrids “August Moon” and “Aureo-marginata” were positive for *Hosta Virus X* (HVX), while samples of the *Iris germanica* varieties “Batik,” “Double Your Fun,” “Edith Wolford,” “Immortality,” “Matinata,” “Rimfire,” “Savannah Sunset,” and “Strawberry Love” all returned positives for *Iris potyvirus*. The *Iris pumila* variety “Larrikin,” *Iris* hybrid “Banshee,” and the *Mandevilla* hybrid “Sun Parasol” also tested positive for *Iris potyvirus*. Continued diligence in maintaining virus-free breeding stock, closely checking plants for symptoms before purchasing, using proper pruning sanitation, and destroying infected plant materials are the best defenses against viruses.

TOMATO SPOTTED WILT VIRUS: The tospovirus Tomato Spotted Wilt Virus (TSWV) was detected in April in a

Coreopsis verticillata “Zagreb” sample. Seven thrips species have been confirmed as vectors for TSWV, with western flower thrips being the most predominant in greenhouses.

The name TSWV was derived from the symptoms which develop on tomato (spotting followed by wilt), though on other hosts, symptoms may include ringspots, dark lesions on the leaves and stems, flower color breaking, stunting, and wilt.

Management through elimination of infected plant material and eradication of Western flower thrips infestations are the most important practices. Newly-acquired plant shipments should be inspected for evidence of thrips and virus symptoms before being introduced into any greenhouse or plant production facility.



Tomato spotted wilt virus in Coreopsis

Anette Phibbs DATCP

APPLE INSECT & BLACK LIGHT TRAP COUNTS APRIL 26 - MAY 2

COUNTY	SITE	STLM ¹	RBLR ²	CM ³	OBLR ⁴	DWB ⁵	LPTB ⁶	BMSB ⁷	AM RED ⁸	YELLOW ⁹
Bayfield	Keystone	—	—							
Bayfield	Orienta	0	0							
Brown	Oneida	35	17							
Columbia	Rio	—	—							
Crawford	Gays Mills	—	—							
Dane	DeForest	—	—							
Dane	Mt. Horeb	5	176							
Dane	Stoughton	35	104							
Fond du Lac	Campbellsport	0	8							
Fond du Lac	Malone	2	22							
Fond du Lac	Rosendale	0	0							
Grant	Sinsinawa	73	33							
Green	Brodhead	—	—							
Iowa	Mineral Point	525	124							
Jackson	Hixton	—	—							
Kenosha	Burlington	110	43							
Marathon	Edgar	0	0							
Marinette	Niagara	—	—							
Marquette	Montello	242	136							
Ozaukee	Mequon	0	20							
Pierce	Beldenville	0	6							
Pierce	Spring Valley	0	15							
Racine	Raymond	—	—							
Racine	Rochester	400	160							
Richland	Hill Point	2	55							
Sheboygan	Plymouth	350	108							
Walworth	East Troy	24	27							
Walworth	Elkhorn	21	20							
Waukesha	New Berlin	—	—							

¹Spotted tentiform leafminer; ²Redbanded leafroller; ³Codling moth; ⁴Obliquebanded leafroller; ⁵Lesser peachtree borer; ⁶Dogwood borer; ⁷Brown marmorated stink bug; ⁸Apple maggot red ball; *Unbaited; **Baited; ⁹Apple maggot yellow board.

COUNTY	SITE	BCW ¹	CEL ²	CE ³	DCW ⁴	ECB ⁵	FORL ⁶	SCW ⁷	TA ⁸	VCW ⁹	WBC ¹⁰
Columbia	Arlington	—	—	—	—	—	—	—	—	—	—
Columbia	Pardeeville	—	—	—	—	—	—	—	—	—	—
Dodge	Beaver Dam	—	—	—	—	—	—	—	—	—	—
Fond du Lac	Ripon	—	—	—	—	—	—	—	—	—	—
Grant	Prairie du Chien	0	0	0	0	0	2	0	0	0	0
Manitowoc	Manitowoc	—	—	—	—	—	—	—	—	—	—
Marathon	Wausau	—	—	—	—	—	—	—	—	—	—
Monroe	Sparta	—	—	—	—	—	—	—	—	—	—
Rock	Janesville	0	0	0	0	0	0	0	5	0	0
Walworth	East Troy	—	—	—	—	—	—	—	—	—	—
Wood	Marshfield	—	—	—	—	—	—	—	—	—	—

¹Black cutworm; ²Celery looper; ³Corn earworm; ⁴Dingy cutworm; ⁵European corn borer; ⁶Forage looper; ⁷Spotted cutworm; ⁸True armyworm; ⁹Variegated cutworm; ¹⁰Western bean cutworm.